

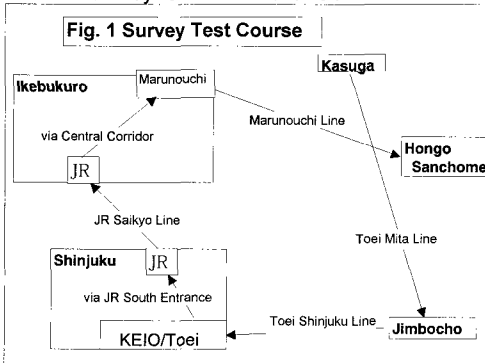
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1. Introduction

This study proposed to make a basic assessment of the navigability of the Tokyo railway system by foreigners, focusing on the effectiveness of the sign system intended to help the users of the railway. Although a few studies had been made from the perspective of the Japanese users, no similar assessment studies had yet been made from the foreigners standpoint.

2. Description of the Survey

Nine foreign civil engineering students at the University of Tokyo, who had been in Japan for less than two months, with limited Japanese language ability - and still unfamiliar with the railway system, were asked to traverse a pre-determined test course which was designed to incorporate the following situations which are commonly experienced in the railway network : (1) Transfer between train lines of the same company, (2) Transfer between different train companies. They were supposed to rely solely on the available sign system to find their way around. The choice of this survey test route is not necessarily the most representative of the possible interactions which can occur while using the railway system, but it was selected as less familiar to the respondents. The selected survey route is as follows :



The survey focused on the perceptions of the stations along the test route, and also their general experience. For the test-route portion, they were asked to give their perceptions from the perspective of a predefined "way-finding" process.

3. Way-finding process

The first part of this study involved conceptualizing the steps or stages that a normal user of the railway system would take in finding his way around. The steps that were finally chosen are described as shown in Fig. 2.

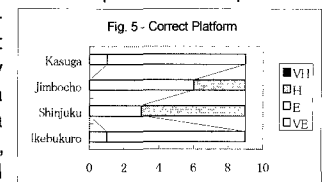
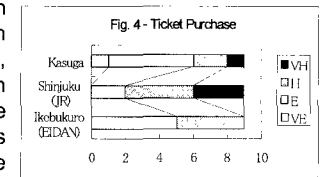
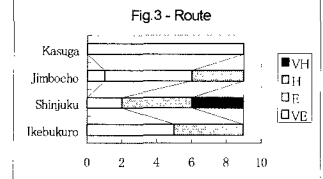
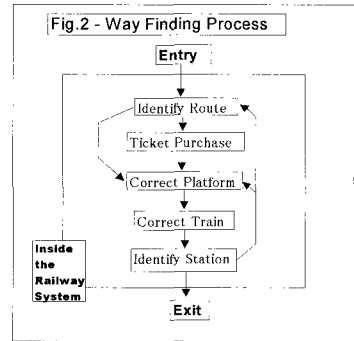
They gave their impressions of these way-finding stages in as much as they are applicable to the stations that they traversed in the test course. The responses were either VE-Very Easy, E-Easy, H-Hard, or VH-Very Hard.

The following figures compare the responses for different stations.

Route - The trend seems to be that the difficulty of this step corresponds to the size of the station. Shinjuku stands out for the reason that the survey route involves a transfer from one company to another, the companies' stations being somewhat distant from each other. In the section leading from KEIO to JR lines' South gate, there is a lack of clear directions (for foreigners).

Ticket Purchase - For this stage, the major problems for the respondents had to do with (1) finding the ticket price and (2) operating the ticket machine. Shinjuku station, despite the fact that it was not the first station passed, is an example of the first, as Kasuga is an example of the second reason. It was not easy for the respondents to locate the correct fare price on the immense ticket price map of JR Shinjuku; possibly due to unfamiliarity with the relative locations of the stations, as well as the somewhat spatially deformed aspect of the map.

Correct Platform - Finding the correct platform is logically more difficult in a large station than in a small one. However, the survey showed that the respondents



had more difficulty in Jimbocho, than in Ikebukuro. This is symptomatic of a lay-out problem which is more serious for Jimbocho.

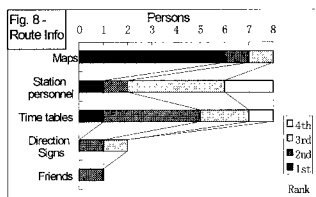
Correct Train - Identifying the appropriate train involves the knowledge of the stations that a particular train will stop at. The respondents usually rely on the tables of travel times or schedules. However, since these are not always available completely in English, problems do appear. For the test course, JR's Saikyo Line was designed to illustrate the problem of differentiating between Rapid and Local trains. Although the actual situation did not cause them any trouble, they failed to distinguish if the train they rode was Rapid or Local.

Identify station - Again Shinjuku station (KEIO/Toei portion) appears as the relatively most problematic, due mostly to the fact that the station name sign on the arrival platform used Roman letters which are somewhat smaller than those used in the other stations encountered.

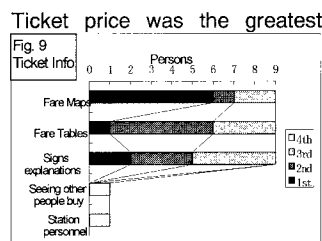
4. Information Source Preference

The respondents shared their opinions about which sources of information they preferred with regard to a given way-finding activity. (1st means first choice, 2nd means next choice and so on.) An important comment for this section is that those with responses totaling nine were the only ones explicitly named in the survey. Those that follow were suggested voluntarily by the respondents.

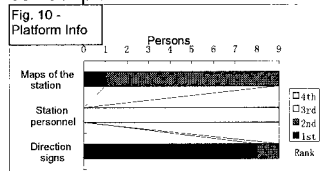
Route-Maps are the most preferred information source; shown clearly in the responses.



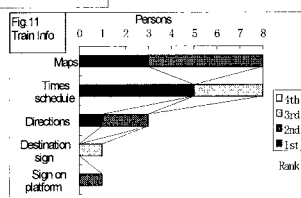
Ticket Purchase - concern for them within this activity. This was followed by concern for the operation of the ticket machine.



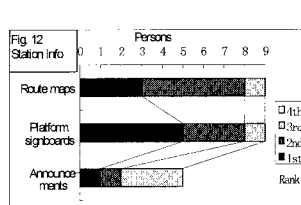
Correct Platform - Maps of station were confirmed as an good complement to direction signs in finding the correct platform.



Correct Train - surprisingly, maps were also popular for this activity.



Identify Station - Platform signs were definitely the most solid confirmation of their location.



5. Concluding Remarks

Based on the responses, it is possible to confirm that English language information is generally acceptable as a complement to the available Japanese language information in stations. The information currently available is enough so that they (the foreign users) would not become lost. However, the level is insufficient to make it truly convenient for them.

From section 4, we can observe that the respondents consistently prefer signs over asking station personnel. This provides some justification for focusing on the improvement of the available sign system.

Among the improvements that they cited were related to the operation of ticket machines, more readable fare tables, as well as making mini maps more easy to acquire. Of these, making mini maps more available could prove to be the most cost effective improvement available to the train companies. Such maps could also contain important tips on finding their way around.

At present, the number of foreigners has increased from previous levels, contributing to the increasingly international nature of Tokyo. Making their stay more comfortable can contribute positively to the friendly relationship between Japan and the world.

Acknowledgment

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